



Docket No.: 27120U

IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: MATJE, et al.

Art Unit: 1725

Appl. No.: 10/560,113

Examiner: XX

Filing Date: November 8, 2006

Confirm. No.: 2990

Title: DURABLE BN MOULD SEPARATING AGENTS FOR THE DIE CASTING OF  
NON-FERROUS METALS

TRANSMITTAL LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith for filing in the U.S. Patent and Trademark Office is the following Patent Application:

1. Submission of Documents to Supplement Filing Documents under 35 USC 371;
2. PCT/IB/338 (Notification of Transmittal of Copies of Translation of the International Preliminary Report on Patentability);
3. PCT/IB/373 (International Preliminary Report on Patentability); and
4. PCT/ISA/237 (Written Opinion of the International Searching Authority).

The Commissioner is hereby authorized to charge any deficiency or credit any excess to Deposit Account No. 14-0112.

Respectfully Submitted,  
**NATH & ASSOCIATES PLLC**

December 27, 2006

**NATH & ASSOCIATES PLLC**  
112 South West Street  
Alexandria, VA 22314

Gary M. Nath, Reg. No. 26,965  
Gregory B. Kang, Reg. No. 45,273  
Jerald L. Meyer, Reg. No. 41,194  
Customer No. 20529

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Appl. No.: 10/560,113 Examiner: XX  
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NON-FERROUS METALS

SUBMISSION OF DOCUMENTS  
TO SUPPLEMENT FILING DOCUMENTS UNDER 35 USC 371

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In order to supplement the filing documents for the national phase filing under USC 371 commenced on November 8, 2006, applicant now submits the following documents:

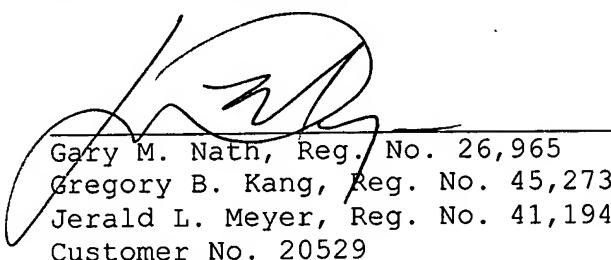
1. PCT/IB/338 (Notification of Transmittal of Copies of Translation of the International Preliminary Report on Patentability);
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and
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Please charge any deficiency or credit any overpayment to our Deposit Account Number 14-0112.

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**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II)  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

From the INTERNATIONAL BUREAU

To:	EINGANGEN TER MIEB - STEINMEISTER + PARTNER
22. MAI 2006	
POTTEN, Holger c/o Wacker-Chemie GmbH Hanns-Seidel-Platz 4 81737 München ALLEMAGNE	WACKER CHEMIE AG München Patente, Marken und Lizenzen
Eing. 17. MAI 2006	

Date of mailing (day/month/year)  
11 May 2006 (11.05.2006)

Applicant's or agent's file reference  
Wa 10246-W

**IMPORTANT NOTIFICATION**

International application No.  
PCT/EP2004/006328

International filing date (day/month/year)  
11 June 2004 (11.06.2004)

Applicant  
ESK CERAMICS GMBH & CO. KG et al

**1. Transmittal of the translation to the applicant.**

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

**2. Transmittal of the copy of the translation to the designated or elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

**3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

**It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.**

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Ellen Moyse

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 89 75

**PATENT COOPERATION TREATY**  
**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference Wa 10246-W	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/EP2004/006328	International filing date ( <i>day/month/year</i> ) 11 June 2004 (11.06.2004)	Priority date ( <i>day/month/year</i> ) 13 June 2003 (13.06.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant ESK CERAMICS GMBH & CO. KG			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 8 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p> <p>3. This report contains indications relating to the following items:</p> <table> <tbody> <tr> <td><input checked="" type="checkbox"/> Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/> Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/> Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/> Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/> Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/> Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </tbody> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/> Box No. I	Basis of the report	<input checked="" type="checkbox"/> Box No. II	Priority	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/> Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/> Box No. VI	Certain documents cited	<input type="checkbox"/> Box No. VII	Certain defects in the international application	<input type="checkbox"/> Box No. VIII	Certain observations on the international application
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<input checked="" type="checkbox"/> Box No. IV	Lack of unity of invention															
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement															
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<input type="checkbox"/> Box No. VIII	Certain observations on the international application															

Date of issuance of this report 01 May 2006 (01.05.2006)	
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35	Authorized officer  Ellen Moyse  Telephone No. +41 22 338 89 75

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)
Applicant's or agent's file reference <b>Wa 10246-W</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/EP2004/006328</b>	International filing date (day/month/year) <b>11.06.2004</b>	Priority date (day/month/year) <b>13.06.2003</b>
International Patent Classification (IPC) or both national classification and IPC		
Applicant <b>ESK CERAMICS GMBH &amp; CO. KG</b>		

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

**Translation**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/EP2004/006328

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material  
 in written format  
 in computer readable form
  - c. time of filing/furnishing  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/EP2004/006328

Box No. II Priority

1.  The following document has not yet been furnished:

copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).  
 translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2.  This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/EP2004/006328

Box No. IV Lack of unity of invention

1.  In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:  
 paid additional fees  
 paid additional fees under protest  
 not paid additional fees
2.  This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is  
 complied with  
 not complied with for the following reasons:

Since the subject matter of claim 25 is not novel (see point V.2 below), there is obviously no technical relationship between its subject matter and the subject matters of claims 1-24 such that they jointly contain one or more identical or corresponding technical features. The subject matters are thus not connected in such a way that they are based on a single inventive idea (PCT Rule 13.1).

The only technical features common to claims 25 and 1, namely a boron nitride suspension in water or an organic solvent, are already known, independently of one another, from D1-D4.

4. Consequently, this opinion has been established in respect of the following parts of the international application:

all parts  
 the parts relating to claims Nos. \_\_\_\_\_

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.	PCT/EP2004/006328
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Box No. V	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>
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**1. Statement**

Novelty (N)	Claims <u>2-6, 8, 9, 11-21</u>	YES
	Claims <u>1, 7, 10, 22-25</u>	NO
Inventive step (IS)	Claims _____	YES
	Claims <u>1-25</u>	NO
Industrial applicability (IA)	Claims <u>1-25</u>	YES
	Claims _____	NO

**2. Citations and explanations:**

**1. Reference is made to the following documents:**

D1: US-A-20020193027;  
 D2: US-A-3213024;  
 D3: US-A-4195002;  
 D4: EP-A-0419209;  
 D5: DE 196 47 368 A.

**2. The present application does not satisfy the criterion in PCT Article 33(2) because the subject matter of claim 25 is not novel in relation to the prior art as defined in the Regulations (PCT Rule 64.1-64.3).**

**2.1. Document D1 (see the International Search Report) discloses aqueous dispersions of boron nitride containing polyvinylpyrrolidone as dispersant.**

**2.2. Document D2 (see the International Search Report) discloses dispersions of boron nitride in water/oil emulsions containing polyvinylpyrrolidone and "partial esters of polyhydric alcohols" as**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/EP2004/006328

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

dispersants. The water content is up to 70% by mass.

2.3. The only difference between the teaching of D3 and the subject matter of claim 25 is that in D3 polyacrylic acid is used for forming an **aqueous** boron nitride suspension.

3. The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1, 7, 10 and 22-24 is not novel within the meaning of PCT Article 33(2).

3.1. Document D1 (see the International Search Report and the comprehensive acknowledgement in the present application, page 9, line 4 to page 10, line 17) describes a slip which is suitable for producing a mold release layer which is stable over a prolonged period and comprises

- an inorganic binder containing colloidal inorganic particles such as  $\text{SiO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{ZrO}_2$  (see claim 4),
- silanes such as MTOES and TEOS (example 8),
- boron nitride having a mean particle size of 1 micron (example 8) and
- the solvents indicated in the present claim 1.

3.2. The purity of the boron nitride specified in the present claim corresponds to the commercial purity, i.e. obviously also to that of the boron nitride in D1.

3.3. It is therefore also not possible to see that the mold release layers of D1 actually have the

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/EP2004/006328

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

disadvantages compared to the release layers  
according to claim 1 of the present application  
which are stated in the present description (see  
page 9, line 31 to page 10, line 17).

3.4. The process claim 14, the product claim 18 and the dependent claims 2-6, 8, 9, 11-13, 15-17 and 19-21 appear to contain no features which could form the basis of an inventive step.